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July 5, 2018

Mr. Gary Miller
Remedial Project Manager
Region 6 (6SF-RA)
United States Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202-2733

Subject: Comments on First Phase Pre-Design Investigation Work Plan for the San Jacinto River Waste Pits Superfund Site

Dear Mr. Miller,

The Harris County Technical Review Team (Technical Review Team) appreciates the opportunity to review and comment on the draft First Phase Pre-Design Investigation Work Plan (PDI WP) for the San Jacinto River Waste Pits Superfund Site. Below are our comments and recommendations for your consideration.

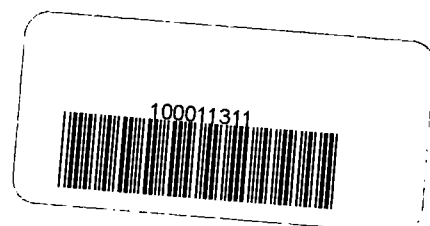
Section 2.1.6 of the PDI WP lists the following data gaps for the Northern Impoundment:

Based on analysis of existing data, the following are the data gaps that will be addressed by PDI-WP:

- **Waste characterization:** Classification of waste in accordance with Texas regulations and characterization of TCLP parameters, and ignitability, corrosivity, and reactivity of the wastes of the northern impoundments
- **Area and volume of material requiring remediation:** Dioxin and furan concentrations within and directly beneath the northern impoundment berms
- **Physical features of the material requiring remediation:** Geotechnical characteristics of the northern impoundment berms, the wastes in the northern impoundments, and the sediments surrounding the berms
- **Water treatment requirements:** Hydraulic conductivity and specific yield for the riverine deposits beneath the wastes, and specific yield for the wastes

Waste Characterization and Volumes (Section 2.2.1 and 2.2.2)

1. The information presented in Section 2.1.1 and Section 2.2.2 is insufficient to quantify the number and locations of samples needed to accurately define the area and volume of material that



requires excavation. The Scope of Work (SOW) requires that the PDI WP present an evaluation and summary of existing data and identify data gaps in Section 3.3(a) and that it refine the area and volume of materials that require remediation.

2. The PDI WP needs to provide all the chemical and physical data at depth for waste, sediment and soils. Figure 2-2 shows the locations of 8 cores with TEQ_{DFM} (TEQ) concentrations. Is this all the data at depth? All the data needs to be presented in the tables.
3. The area of excavation and the number of locations needs to be described. The existing TCRA cap is about 16 acres (per the FS). Assuming there are only 8 cores with data at depth, this means that there is only one core per 2 acres, which is inadequate to “refine the area and volume of materials that require remediation.” The PDI WP should explain the rationale for the number of core locations it recommends to accurately refine the area and volume that requires remediation. For design and construction, the Technical Review Team recommends cores on grid with spacing of a maximum of 200 feet each way for Phase 1. After evaluation of Phase 1, there will likely be locations where closer spacing will be needed.
4. As stated in Section 2.2.2.3, a 2-foot vertical interval is too large for refining the vertical extent of materials that require excavation. The Technical Review Team recommends a maximum depth interval of 1.0 foot but would prefer a 0.5 foot maximum depth interval. Soil samples do not need to be collected to a depth of 18 feet. In addition, the Technical Review Team recommends collecting samples at shorter intervals and to the depth where the TEQ concentrations fall below 30 ng/Kg.
5. The legends on all figures needs to be revised to show TEQ above and below the 30 ng/Kg action level. We recommend red, orange and yellow for concentrations above 30 ng/Kg and green and blue for concentrations below 30 ng/Kg.
6. As stated in Section 2.2.1 and 2.2.1.3, the proposed composite sample depth of 10 feet and 5 feet is too large. PDI WP needs to provide explanation and rationale for the number of characterization samples needed for 162,000 cubic yards of excavation over an area of about 16 acres. Although the waste material is from a pulp mill, it does not mean that it is uniform. Processes commonly change over time and other waste could have been placed in the area as well. The Technical Review Team recommends performing waste characterization of sufficient numbers of waste, sediment and soil that will be excavated.
7. As stated in Section 2.2.1.4, TCLP, with leachates analyzed for VOCs, SVOCs, pesticides, herbicides, PCBs, and metals, as specified in 40 CFR §261.24 may be required. However this complete list should only be performed on a limited number of samples to confirm that they are

not present. The responsible parties should use the site history and past total chemical concentrations to reduce most analyses to those chemicals that may have been released by pulp mill or other operations. The Technical Review Team also recommends checking with potential landfills to see what TCLP testing will be required.

Geotechnical Properties of Soil and Sediments (Section 2.2.3)

8. Geotechnical and chemical data at the locations of the planned cofferdams and sheet pile walls need to be obtained. Figure 35 in the ROD shows the approximate location of the cofferdams, which is outside the footprint of the current Armored Cap extents. In the PDI WP, there are no explorations shown outside the armored cap area, which is a data gap. Chemical data is needed to determine where the cofferdams need to be constructed. Geotechnical data at depth is needed to design the cofferdams and sheet pile walls.
9. Figure 2.8 does not show or label which 8 borings are in the berms. The media each exploration will sample along with exploration number needs be indicated in the figure (similar to figure in Appendix A).
10. Table 2-1 needs to present all the detected concentrations of all chemicals (similar to Table 2-3 for physical data). All existing exploration locations need to be clearly shown on figures.
11. Figure 2-3 needs to clearly show the location and number of all existing explorations. Just showing all existing locations with one symbol and no labels provides little value. Does Figure 2-1 show all surface waste, soil or sediment locations? Does Figure 2-2 show all core or boring information at depth?
12. Contrary to the Section 2.1.3 Footnote, Vane shear tests are relevant to the design.

First Phase Pre-Design Investigation Tasks, Southern Impoundment (Section 3.2)

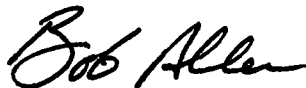
13. The Technical Review Team is concerned that there is no investigation task to characterize the waste for classification and disposal purposes. The selected remedy for the southern impoundment includes off-site disposal of contaminated waste. Therefore the waste should be tested in accordance with EPA and TCEQ requirements to ensure a proper disposal site is selected. To ensure proper disposal, the Technical Review Team recommends that an investigation task be included to characterize the waste in the southern impoundment. The same waste classification protocol as in the northern impoundment should also be applied to the waste in the southern impoundment.

General Comments on Approach

14. The SOW gives the minimum requirements for Phase 1 of the PDI and states that additional phases may be required and that treatability studies may be required. Treatability studies will be required and it would be beneficial to start them concurrently with Phase 1 PDI work. The minimum studies required will be solidification of waste and sediment that will be excavated and treatment of water that separates from the waste and sediment after excavation.
15. The PDI WP should include descriptions of all the engineering calculations and numerical analyses that will be needed during the design and list all the input parameters needed for these analyses. The input needs should be compared to the existing data to identify all additional data that needs to be obtained in order to perform the analyses.

At the June 5, 2018 community meeting, the EPA indicated that at some point during the remediation process a third party contractor will be hired to assist with remedial project oversight. Due to the complexities of this site, the Technical Review Team is requesting that the EPA consider having a third party contractor available to review and comment on draft design work plans as well as provide oversight during site construction and remediation. The Technical Review Team also requests that comment letters received from the reviewing parties be made available for internal review.

Sincerely,



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